1: Hollis G-5 (ca. 1894-1904) 1905
FL12 Masai FL12

Suk, kôte; Turkana, akotok). I think traces of articles can be detected, and Nandi certainly has many formative elements combined with the essential part of the word, such as *-t* and *-da* to mark the singular, and *k*, *nek*, and *wek* for the plural. When the precise force of these prefixes and affixes is known, the degree of relationship with Masai will be plainer. The verbal forms quoted from Nandi seem very similar to those in Masai.

Nandi.	compare	*Masai.*
Aonget ane, I know.		Asuj nanu, I follow.
Inget inye, thou knowest.		Isuj iye, thou followest.
Ingen ni, he knows.		Esuj ninye, he follows.
Kinget acek, we know.		Kisuj iyook, we follow.
Onget akwek, ye know.		Isujusuju 'ndae, you follow.
Inget iceke, they know.		Esuj ninje, they follow.
Maonget, I do not know.		Masuj, I do not follow.
Minget, thou knowest not.		Misuj, thou followest not.
Minget inne, he does not know.		Mesuj, he does not follow.
Mokinget, we do not know.		Mikisuj, we do not follow.
Nenyu mwonget, ye do not know.		Misujusuju, you do not follow.
Menget icek, they do not know.		Mesuj, they do not follow.

In Masai it is not necessary to express the personal pronoun except to avoid ambiguity. Suk, like Masai and Nandi, has *m* as a sign of the negative, but Turkana has *nye*.

It does not appear to me that these languages—Masai, Nandi-Lumbwa, Suk and Turkana—have any clear kinship with Somali and Galla. The coincidences in vocabulary seem explicable as loan words. The grammatical system of all is compatible with the view, if it can be supported by other arguments, that all can be traced back to one stock, that is to say, none of the languages show an essentially different method of forming words and constructing sentences, as does, for instance, the Bantu group. But the similarity consists in the absence of striking differences rather than in points of positive agreement. It may be noted, however, that Somali has an article; that the negative is *ma*; that there are some resemblances with Masai in both the personal and possessive pronouns, and that those verbs which take prefixes offer a general resemblance to the corresponding Masai formations (Somali: *a-qan*, *ta-qan*, *ya-qan*, *na-qan*, *ta-qan-in*, *ya-qan-in*, I know, you know, &c., compare Masai *a-suj*, *i-suj*, *e-suj*, *ki-suj*, *i-sujusuju*, *e-suj*).

It may be of interest as throwing light on the relationships of East African languages to give the numerals of those which have been mentioned, as well as of Ja-luo, Acholi, and Madi.

	Somali.	Masai.	Latuka.	Kanuri.	Tumbura.	Sere.	Nuba.	Dinka.	Ja-luo.	Acholi.	Madi.
1	Kow	Ôbo, m. Nabo, *f.*	Abodi	Abodgo	Epet	Obodgo	To or Gelong	Tok	Achiel	Ahiel	Alo
2	Labe	Áuro, m. Aro, *f.*	Arrego	Aodg	Ŋgoro	Óyodg	Ori or morok	Rin	Aryio	Ariô	Rel
3	Sadob	Okuni, m. Uni, *f.*	Guniggo	Sinô	Ŋgwani	Sonok	Jain	Dyak	Adek	Adek	Ek
4	Afar	Oolgwan, m. Olgwan, *f.*	Angwa	Algwan	Ninewon	Algwan	Ungwan	Ngwan	Algwan	Algwan	Sô
5	Shan	Imyet	Niyet	Mal[a]	Ekan	Mêk	Kanat	Wôdo	Ahity'	Ahi	Tôô
6	Lab	Ille	Elle	Le	Ekani kapei	Ekani kapei	Baker	Wôdum	Awuchiel	Ahichel	Aelô
7	Tedoté	Onpichana Nalpichana	Attarit	Ṭonub	Ekani gare	Mêk óyodg	Baryô	Wôrôn	Aberio	Ahierô	Tudiori
8	Sided	Iyet	Ottigual	Sini	Ngoligwani	Gongeini	Bodik	Bêt	Aburo	Aburo	Aroô
9	Sagal	Oolo[1], m. Nando, *f.*	Ottongua	Sokal	Ekan kuuwon	Ekan kuuwon	Bongudo	Wôangwan	Ongachiel	Abolgwon	Dvilmalô
10	Toban	Tomon	Tomon	Tamon	Tomuon	Tomuon	Putk or Mero	Wiyor	Apar	Apa	Madri

[1] *Sadowi* and *ai*, the latter according to F. Müller, are also used for 9. Of the higher Masai numbers, Pipilon (20) seems to be the Galla *digdon*, *orton* (40), and *onon* (50), perhaps the Somali *afartan* and *konton*. *Ouon* (30) is the same as the Bok word, and apparently connected with *Somali* (3).

1: Hollis G-5 (ca. 1894-1904) 1905
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This list of numbers suggests the following reflections among others: (*a*) Madi is quite different from the other languages, and gives the impression more than Somali of belonging to a different group. (*b*) Somali has lent numbers to Masai, Latuka, Nandi, Turkana, and Suk, but is otherwise distinct. (*c*) The remaining languages had originally separate numerals only up to 5. The higher numerals are expressed in Nandi and Masai by borrowed words or new formations, in the others by compounds which more or less clearly mean 5+1, 5+2, &c. It is remarkable that both in Bari and Dinka, as well as Ja-luo and Acholi, though they do not otherwise correspond in details, 7 and 9 are clearly 5+2 and 5+4, but 8 is not so plainly 5+3. (*d*) The numerals up to 5 show a fair correspondence. 4 is practically the same in all languages, and so is 2, except in Nandi and Suk, where it is replaced by a word which may possibly mean 'pair,' just as *fuz* is commonly used for 2 in Arabic dialects. For 5 there are at least two words: *mut* and *imyet* in Nandi and Masai; *kanat* and *ekan* in Bari. Suk uses both. Possibly *wdeds* in Dinka and *abity'* in Ja-luo represent variations of the first root, as may also the *Bu* in the Bari numerals from 6 to 9. 1 shows great variety, which may perhaps be paralleled in other families of languages, for instance, Aryan; but it is strange that there should be so little agreement as to 3. Masai and Turkana use *uni*, Nandi and Suk *somok*. *Jala* in Bari stands alone. Dinka, Ja-luo, and Acholi use some word like *dek*, which perhaps reappears in the Bari for 8, *budŏk* (=5+3). The general conclusion to be drawn is that all these languages (except of course Somali and Madi), while forming closer sub-groups among themselves, belong to a common stock, and that the nearest relation of Masai is Latuka, though they have been separated long enough for each to develop special features.

Mr. Hollis's book will appeal chiefly to the scientific world, and perhaps is, with the exception of Sir Harry Johnston and Krapf's works, the most valuable contribution which has yet been made to the anthropology and philology of the British possessions in East Africa. But it will also have, if used as it should be, a very great practical value. Experience gained in many parts of the world has impressed on me the obvious but much neglected truth that if one wishes to be on friendly terms with other races and to avoid misunderstandings, the first essential is to speak their language. There can be no doubt that in East Africa, as elsewhere, natives are delighted

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Supat elle, e-lus-oo te-pôkin (good this one, he passes by all), this one is the best of all.

Supat ledo, kake elle ŏ-lus-oo te-'supatishu (good that one, but this one who surpasses in goodness), that man is good, but this one is the best.

Supat elle a-lafig pôkin (good this one to surpass all), this one is the best of all.

THE NUMERALS.

193*
802

Masculine.	*Feminine.*	English.
Ŏbo	Nabo[1]	One.
Aare	Are	Two.
Ŏkuni	Uni	Three.
Oŏigwan	Oŏigwan	Four.
Imyet[2]		Five.
Ille[2]		Six.
Oopishana	Naapishana	Seven.
Isyet[2]		Eight.
Ŏudo	Naudo	Nine[3].
Tomon		Ten.
Tomon o ŏbo	Tomon o nabo	Eleven.
Tomon o aare[4]	Tomon o are	Twelve.
Tomon o ŏkuni	Tomon o uni	Thirteen.
Tomon o oŏigwan	Tomon o oŏigwan	Fourteen.
Tomon o imyet		Fifteen.
Tomon o ille		Sixteen.
Tomon o oopishana	Tomon oo naapishana	Seventeen.
Tomon o isyet		Eighteen.
Tomon o ŏudo	Tomon oo naudo	Nineteen.
Tigităm		Twenty.
Tigităm o ŏbo	Tigităm o nabo	Twenty-one.
Osom *or* 'N-domoni uni		Thirty.
Artam *or* 'N-domoni oŏigwan		Forty.
Onom *or* 'N-domoni 'myet		Fifty.
Onom oo tomon *or* 'N-domoni 'lle		Sixty[5].
Onom oo tigităm *or* 'N-domoni naapishana		Seventy.
Onom oo 'n-domoni uni *or* 'N-domoni 'syet		Eighty.
Onom o artam *or* 'N-domoni naudo		Ninety.

[1] 1 when used with e-wăji, the place, is nĕbo.

[2] The ' is sometimes omitted when these words follow a vowel.

[3] Endoroj is occasionally used for nine.

[4] When two numerals are joined by the conjunction *and*, the double o of the plural is only pronounced if followed by a consonant.

[5] Often everything above fifty is simply styled ip. If it is desired to express a very large number, ip-ip, one thousand, *or* le-me-lkan-ayu, countless, are used.

1: Hollis G-5 (ca. 1894-1904) 1905
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802

Masculine.	Feminine.	English.
Ip		Hundred.
Ip o ŏbo		One hundred and one.
Ip o onom		One hundred and fifty.
Ip onom		Five hundred.
Ip-Ip *or* 'N-domoni ip		One thousand.
Ip-Ip kata-'myet		Five thousand.

With the exception of 1, the number always follows the substantive:

Il-tuñganak aare, two men.

When 1 is placed before the substantive, the article is omitted; when it follows, the article is retained:

Ŏbo-tuñgani *or* Ol-tuñgani ŏbo, one man.
Nabo-oloñg *or* Eng-oloñg nabo, one day.

The ordinal numbers are expressed by the use of the genitive particle with or without the article:

Ol-tuñgani li-ooñgwan, the fourth man.
Eng-aji e-oñgwan, the fourth hut.
Tapala 'l-tuñganak aare, toriku ol-li-ŏkuni (leave two men alone, bring the third), bring the third man.

First and *last* can both be expressed by Ol-le-bata, the-of-side. *First* is, however, more usually translated by one of the following:

Ol-le-lŭghunya, the-of-head.
Ol-o-ituruk, the-who-precedes.
Ol-ŏ-lus-oo, the-who-passes-by.

Last is translated by Ol-le-kurum, the-of-behind, *or* Ol-o-iñgopu, the-who-is-behind.

Once, Twice, &c., are denoted by the use of en-gata, the time:

Nabo-kata [1], once, the first time.
Kat'-are, twice.
'N-gataitin are, the second time.
'N-gataitin aja? how many times?
'N-gataitin kumok, often.

First of all is translated by a-ñgas a-iter, to commence to begin, or simply by a-ñgas, to commence:

I-ñgas a-iter en-gias, pe ilo, } you must first of all do the work,
I-ñgas en-gias, pe ilo, } then you may go.

● 802 The Masai have various finger signs to denote the numerals.

1. The first finger of the right hand is held up and the rest of the fist closed. The hand must be kept still.

[1] The first time can also be rendered by eng-aiter.

1: Hollis G-5 (ca. 1894-1904) 1905
FL12 Masai FL12

2. The outstretched first and second fingers are rubbed rapidly one against the other.

3. The first finger is rested on the thumb and the first joint of the middle finger is placed against the side of the middle joint of the first finger, the other two fingers remaining closed.

4. The fingers are outstretched, the first and middle ones being crossed.

5. The fist is closed with the thumb placed between the first and second fingers.

6. The nail of one of the fingers—generally the ring finger—is clicked three or four times by the thumb nail.

7. The tip of the thumb is rubbed rapidly against the tip of one of the fingers, generally the middle finger, the hand remaining open.

8. The hand is opened and the fingers are either all pressed together or all kept apart. A rapid movement with the hand in this position is then performed, first in a downward and then in an upward direction. This movement is made by the hand only, the wrist acting as lever.

9. The first finger is bent so that the tip touches the tip of the thumb, the other fingers being at the same time opened.

10. The closed fist is thrown out and opened, the nail of the middle finger being at the same time clicked against the tip of the thumb.

20. The open fist is closed and opened two or three times.

30. The fingers are placed in the same position as when representing 1, i. e. the first finger is held up while the rest of the hand is closed. When in this position the hand is shaken slightly from the wrist.

40. The hand is opened, and the first and middle fingers are pressed together, as are also the ring and little fingers, a gap thus existing between the middle and ring fingers. When in this position the hand is shaken.

50. The tip of the thumb is placed between the ends of the first and middle fingers. The other fingers can be opened or closed at the same time.

60. For ip, that is to say anything above fifty, the closed fist is jerked out from the body, the fingers being at the same time opened.

PRONOUNS.

The full forms of the personal pronouns are:

Singular.		Plural.	
I	Nanu	We	Iyook.
Thou	Iye	You	Indae.
He, she, or it	Ninye	They	Ninje.

231	613
233	614
262	643
304	721
411	754
524	759
564	• 802
595	805

[For mythological accounts of the origin of:

livestock and dogs	see category 539, p. 359
honey as a source of food	360
board game	361
club carved of wood	362
blood as a source of food	362
blacksmiths	364
clans and lineages	368-369
counting and number words	370
7-day week	376
polygamy	377
ol oiboni and chief	377
circumcision	382
double-edged knife	382
sorcerers	382
physicians	362
mandate for war on non- Masai	382-383.]

/xiv cont./

114 776 782 113 and their imageless worship of God ("they have definite prayers and they petition the deity more frequently and fervently than the surrounding tribes are known to do" /cited in English/), stand unquestionably, just as generally a comparison of the book by Hollis, appearing shortly after Merker's book, with Merker's Masai is the best apologia for the reliability of Merker's ethnological as well as linguistic observations.

114 174 Another outstanding African scholar, the praiseworthy, well-known linguist Carl Meinhof of Berlin (now Hamburg), has above all, and, to be sure, for linguistic reasons, turned against Merker's designation of the Masai as a "Semite people," and with that then also at the same time against their onetime ancestral home in Arabia (2).

[113] 2. Cf. his review in Zeitschr. f. Ethnol., 36, 1904, pp. 735-744.

But what the Arabist Schwally (in Giessen) said about the Masai traditions (Archiv für Rel.-Gesch., IX, 1906, p. 505), that here "features of Semitic origin are well grafted on African ones" (but "when and under what circumstances is hard to say"), also applies to the language, as I was able to convince myself by a thorough study of Hollis' book. Definite remains show that the Masai must once have been Semites, and, to be sure, Arabian Semites. This will be briefly discussed in what follows next.

194 197 [173] [113] [802] Not only does their own tradition teach that they came from the north, but this is also confirmed by a comparison of some of their number words with those /xv/ of the Cushitic languages (especially Somali and Galla) and of Nuba. One should compare the following lists, to which I have also further added the number words of Nandi, closely related to the Masai, from the new book by Hollis (The Nandi, their language and folklore, with Introduction by C. Eliot, Oxford, 1909):

M 174 197 • 802 S 197 802

/xv cont./

	Galla	Somali	Masai	Nandi	
1	toko	kan	obo		1
2	lama	laba	are	areng	2
4	afur	afar	ongwan	angwan	4
6	dya	*lih*	*ille*	*le*	6
7	*torb*	*todoba*		*torrob*	7
8	*saddet*	*sidet*	*isyet*	*sisi*	8
9	*sagal*	*sagal*	*anderoit,sal*	*sokol*	9
10		*toban*	*tomon*	*taman*	10
20	*digetam*	*labatan*	*digitam*	*lipton*	20
30	*sodoma*	*sudun*	*ssom*	*sssom*	30
40	*afurtam*	*afartan*	*artam*	*artam*	40
50		*hamtan*	*amom*	*hamom*	50
100		*keghal*	ip	*pokol*	60, 100

M 193 174 197 S 193 197 M 193 197 174

In the purely Semitic syntax, too, the Masai language is in very close harmony with the Galla and Somali, whereas in this respect the other Cushitic languages (cf. on this point my Grundriss der Geographie und Geschichte des alten Orients /Outline of the Geography and History of the Ancient Orient/, pp. 154 f.) show far more Nuba influence. The pure Semitic substratum of the so-called pattern of the imperfect /Imperfektschemas/ can also be clearly shown as lying at the root of the entire Masai conjugation; one should compare:

1. sing. *e-sudsch*, I follow	pl. *ki-sudsch*, we follow
2. sing. *i-sudsch*, you follow	*i-sudsche-sudsche*, you follow
3. sing. *e-sudsch*, he follows	*e-sudsch*, they follow

where, in accordance with a phonetic change to be observed elsewhere in Masai, ti is reduced to i and ki has arisen from ni, so that we may therefore presume as the oldest forms

S [193]

1. sing. *e-sudsch*	cf.	Somali	*aqan*, I know
2. sing. *ti-sudsch*	"	"	*ta-qan*, etc.
3. sing. *je-sudsch*	"	"	*ya-qan*
1. pl. *ni-sudsch*	"	"	*na-qan*
2. pl. *ti-sudschi*	"	"	*ta-qanen*
3. pl. *je-sudschi*	"	"	*ya-qanen*

D 197 /15 cont./ the El asiti also have their own idiom, which will be briefly discussed at a later place.

M 197 802 184 Corresponding to the uniformity in language, the number words are the same among the Masai and Wakuafi, whereas the Asá and El asiti have their own words for only a few numbers, but in general always make use of the ones used by the other two branches. One

D 197 802 finds a complete correspondence for all three branches in their religious view, and the manner of circumcision customary among both sexes. The peculiar circumcision of the boys is practiced by no

D M 771 304 619 [197] other people at all, with the exception of one lineage of the Tatoga, closely related to the Masai people. In birth and death, too, all three have the same customs, while in the rest of their customs one finds only unessential differences which are based solely on the difference in their external way of life. The most striking proof for

D M 174 619 [844] [876] the three branches' belonging together, however, lies in their descent. The people as a whole are divided into three large tribes, the Il aiser, the El mulelyan, and the El mẹngana, each of which is

D M 614 613 made up of a number of lineages, and every Asá, as well as every Ol kuafi and Ol massani, is a representative of one of these lineages.

If we now concern ourselves further with the ethnography of the

D M 128 Masai in particular, which is at the same time that of the Wakuafi, we are thereby including the ethnographic traits of the entire people; the stressing of individual differences that have developed among the Wandorọ́bo in the course of time and under the influence of changed conditions will be reserved for the third part.

/16/ Second Part

I.

000 Tribes, lineages, sublineages. -- The Ẹn gidoṇ lineage. -- The chief: his rule and policy, magic medicines, genealogical tree, village, ceremonies, foods. -- The sorcerers. -- The El kiborōn lineage. -- The rainmakers.

M 614 613 Every tribe (ẹn̄ gischomi) is divided, as has already been mentioned, into a number of lineages (ol gelata, el gelat). Among these, in turn, one distinguishes principal lineages (ol gelata kitok)

/36 cont./

524 Now the partner starts in the same way playing in his row, /37/ to let the other play again as soon as he has placed a last stone in an empty compartment. The one who places a last stone in an empty compartment of his own row takes it and the ones lying in the adjacent compartment of the opponent's row for himself, and so on until, according to the rules, no more stones can be taken out of play. The one who has removed the most stones has won the match and gives himself a point. Serving as counters [802] [237] are small, finger-thick, and spindle-shaped ivory sticks 15-20 centimeters long (ol alai, el ala) (1).

1. As tooth generally is called tusk of the elephant, ivory.

Before the game starts, there is an understanding as to how many points are to be played. Women never play this game, warriors rarely. The latter usually prefer the en gehé ('n gehén), which is played in much the same way, except that in any case about eight players for each side take turns and each row has 40 to 50 compartments, which are not chiseled into a board, but are scratched into the ground.

415
531

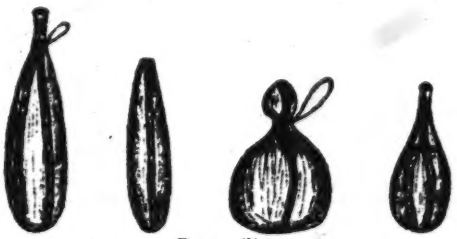

Fig. 9. (1/10.

512
234
264
262 When the livestock has come home from pasture, it is milked, as in the morning, and after that the evening meal, consisting of fresh milk, is taken.

/124 cont./

151 proved by the fact that they prepare the ground plan of the huts, the
[804] wire spirals and wire rings serving for adornment, etc., without mechanical measuring devices. For the same reason one recognizes their sense of symmetry in their weapons.

151 Following the Holmgren zephyr-yarn procedures, I examined 87
125 Masai, and, to be sure, 46 men and 41 women, on their sense of color. The test showed that of all only one man had "weak color sense," all the others, on the other hand, had "normal color sense."
[822] Here too the symbolic significance of the colors should be considered: black = calm seriousness, red (blood) = war, green = peace, variegated, and, to be sure, especially in the combination of red and white, expresses joy, gaiety, but also frivolity and fickleness.

Photographs of objects known by them they perceived correctly, those of persons known by them not at once, but always only after longer observation. Often the perspective foreshortening of an object in the photograph was incomprehensible to them; they regarded such a one as incomplete.

153 Their powers of orientation in the region and their memory for
151 paths once taken or stretches of land traversed are excellent. Their
153 memory for numbers seems to be better than that of most tribes in the
802 interior of East Africa, since, unlike the latter, they do not use
[211] mechanical aids such as notches in sticks, knots in string, etc. Their power of conceiving numbers does not seem to go beyond five; only a few could recognize at a glance the correct number of more than five objects placed before them.

53 Their feeling for plastic art is shown by the rich and not unhand-
517 some adornment, the handsome forms of their weapons, the painting of the shields, the decoration with cowrie shells and beads on utilitarian objects and clothing. Representational art is unknown to them. A feeling for music is completely lacking; their singing is arbitrary and without rules, the main thing in it is the text and the alternation in the vocal execution. They do not have musical instruments, for the antelope horn of the summoner to legal proceedings serves only to attract the attention of the people through loud noises. The following is a
533 common song to accompany the dance (1):

1. Recorded by Herr Stabsarzt /staff physician/ Dr. Skrodzki.

/153 cont./

XVII.

000 Cardinal numbers and the finger signs for them. -- Reckoning ability. -- The fingers. -- Ordinal numbers. -- Fractions. -- Numeral adverbs. -- Times of the day. -- Week. -- Days of the month. -- Months and seasons. -- Designation of the years. -- Measure.

• 802 The Masai system of numbers has rest points at 10 and 60, so that the latter number corresponds to the 100 in the decimal system. One only rarely counts beyond 60; usually one designates anything extending beyond that as kumok nalen mert' esiana, that is, it is too much for one to be able to add it up. Every number word spoken is accompanied by a gesture of the right hand designating the same, which, for that, is stretched out toward the one spoken to. Often the speaker also simply makes the sign with the hand, without saying the number word, while the one addressed does this as a sign that he has understood.

1 = obo masc., nabo fem. Index finger slightly extended, the the thumb rests lightly on the middle finger, which, like fourth and fifth fingers, lies bent into the palm of the hand.

2 = íré or ari (1). Thumb, index finger, and middle finger extended; the other fingers

1. Obsolete word for two = naramá.

lie bent into the palm of the hand. Index and middle finger (not the whole /154/ hand) are alternately moved back and forth several times.

/154 cont./

• 802 3 = uní.

The tip of the thumb stands up, that of the middle finger lies under the middle joint of the index finger. The fourth and fifth fingers lie bent into the palm of the hand.

4 = oṅgwan or uṅgwan.

Index finger and middle finger stretched out, the tip of the latter lies on the nail of the former. Thumb, fourth, and fifth finger lie slightly bent into the palm of the hand.

5 = imíet (1).

In the fist the thumb is shoved between index finger and the middle finger.

1. Obsolete word nambét = five.

6 = illé.

The tips of the thumb and middle finger, or more rarely fourth finger, are brought together, whereby one snaps with the two nails. Index finger is slightly extended, the fourth and fifth fingers are slightly bent.

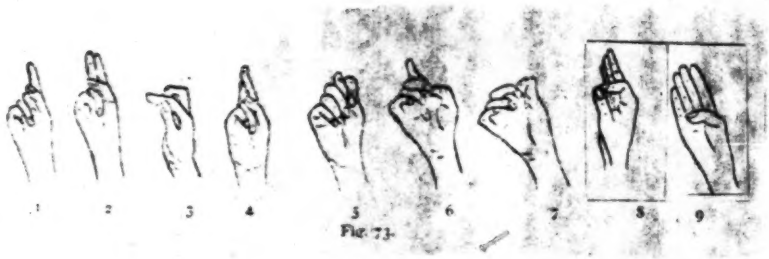

Fig. 73.

• 802 /154 cont./

7 = ŏbĭschănă (2). The hand forms a loose fist; the tip of the index finger lightly rubs on the lower part of the nail joint of the thumb.

2. Obsolete word bischăn = seven.

8 = isiĕt. The opened hand with thumb lying on top is shaken up and down several times at the wrist. /See 9 in Fig. 73./

9 = ĕndŏrŏd (3) or nâùdo. After one has formed a ring with thumb and forefinger and slightly extended the other fingers, there is trembling with the whole hand. /See 8 in Fig. 73./

3. Obsolete word săl = nine.

10 = tŏmŏn. From the sign for nine the index finger is jerked forward with a simultaneous thrusting forward of the hand.

/155/

11 = tŏmŏn-ŏbŏ. Sign for ten and then sign for one.
12 = tŏmŏn-ărĕ. " " " " " " " two.
13 = tŏmŏn-ogŭni. " " " " " " " three.
14 = tŏmŏn-ungwan. " " " " " " " four.
15 = tŏmŏn-oimiĕt. " " " " " " " five.
16 = tŏmŏn-oille. " " " " " " " six.
17 = tŏmŏn-obischana. " " " " " " " seven.
18 = tŏmŏn-oisiĕt. " " " " " " " eight.
19 = tŏmŏn-ĕndŏrŏd. " " " " " " " nine.

20 = digităm. The right hand is opened and closed twice.

30 = ŏssŏm. The same sign as for one, only here there is trembling with the whole hand, as in threatening.

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802 40 = ărtăm. The opened hand with thumb lying on top is moved tremblingly.

50 = ŏnŏm. Similar to the sign used for five, but one does not put the fingers tightly together for a fist, but only just so far back that the tip of the thumb can be put between index finger and middle finger, and then trembles with the entire hand.

60 = Ib (1). The right fist is thrust forward, whereby the extended fingers are spread apart.

1. Obsolete word naisuari = 60.

In the number system of the Masai ib is the next unit after 10, corresponding to the 100 of the decimal system. Moreover, ib is the largest unit and in practice in daily life really the end of the series of numbers. Beyond 60 the system is continued by addition always to the next multiple of 60. Thus it is said 80 = 60 + 20 = ib digitam, and 150 = 60 X 2 + 30 = ib kat aré ossom. Ib also often has the meaning of an uncounted, larger amount. The larger it appears, the more frequently is the word ib with the hand sign used for it repeated, usually with the addition of merta essiana = it is not to be counted, for example, ib ib ib merta essiana.

803 Tests in reckoning showed that the objects presented could be added up correctly. Subtraction was successful only by removing the required number and counting the rest again. Division and multiplication were entirely unknown.

802 For the addition and likewise when teaching children to count, counting was done on the fingers, whereby the number words were pronounced aloud. For /156/ counting off, one first holds the right hand open and with the palm turned upward. Then one puts the fingers of the left hand under the back of the right hand and, with the free, left thumb, presses the fingers of the right hand, one

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802 after the other, from the little finger to the thumb, into the palm of the hand. While one then further counts in like manner on the fingers of the left hand, those of the right one remain closed and only its thumb is moved freely. After turning down the thumb of the left hand, the one counting raises both hands, now closed into fists, and says: tomon (= 10). For counting further, one begins anew in the same way and does not continue, say, on the toes.

[801] [171] The Masai count neither human beings nor cattle. It is believed, as the Israelites also did, according to 1st Chron. 21, that the ones counted would die. Thus, they correctly estimate larger multitudes of living creatures in round numbers, and small ones with quite great certainty. Only dead persons, for example, the fallen warriors, are counted individually.

192 826 [754] The names of the fingers might be mentioned here: thumb = ol moruo kitok, that is, the big old one. Index finger = os sogutiho or ol osokutoni, that is, the sorcerer; if one wants to make someone ill through sorcery, one spreads the magic medicine under the nail of the index finger and, murmuring a curse, one points with it at the person concerned. Middle finger = ol gerĕti, that is, actually the strip of skin worn ringlike on the middle finger. Fourth finger = ŋgoto eŋ genenja, that is, mother of the little finger, which is called eŋ ginjenje or also eŋg ilinda.

802 Ordinals: ol oiturúgu = the first /masc./, ol iaré = the second /masc./, ol ioguni = the third /masc./; eŋ aiturúgu = the first /fem./, eŋ iaré = the second /fem./, eŋ ĕuni = the third /fem./. The /masc./ (the /fem./) (general), ol (eŋ) abaye; the last in the meaning of the rearmost is called ol abaye ta gorom; the one standing on the right end of a row (to the right of the one judging) is called ol abaye t' eŋ gaina ertatenne (eŋ gaina = the hand, ertatenne = on the right). the one standing on the other end, ol abaye t' eŋ gaina ekediĕnje (ekediĕnje = on the left).

Once is called nabo katá (or nabo gadá); twice, kat' aré; three times, kat' uni, etc.

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802 192 As for fractional parts, the Masai have a special word only for a half, e matua, which at the same time also means half, for example, e matua eń geteń = half a cow. One designates parts that are smaller than the half of a whole with en duñoti, which, like os sadjati, means roughly "a piece, a strip of it." These pieces are distinguished according to their size: a large piece = eń duñoti kitok, and a small piece = eń duñoti kete. These words are probably only used in dividing up slaughtered livestock, since there is scarcely any other practical need for their use. En dunoti is used when the whole is divided crosswise; os sadjati, when it is divided lengthwise. With the help of these designations and the number words /157/ one forms fractions in the following manner: en duñoti uni (or es sadjati uni) means that the whole was divided into three parts; en duñoti uni n' aia (a contraction of nanu aia) aré eti nabo = the whole is divided into three parts, I take away two, that leaves one = 1/3.

805 The time of day is estimated according to the position of the sun, more rarely by the length of the shadows. The following times of day are distinguished:

Four o'clock in the morning: erton eto egéñjwa = not yet "early."

Five o'clock in the morning: egéñjwa = early.

Somewhat later is: eń gagenja = the rosy morning sky.

Break of day, about half past five: elagua eńg oloń = the sun is (still) distant.

Sunrise: etubúguo eńg oloń = the sun appears a little, or elebwa eńg oloń = the sun is coming up.

The time from eight to ten o'clock in the forenoon is called erton atad egéñjwa = still early yet.

Around eleven o'clock in the forenoon, one says: eto nīto ebir' eńg oloń = the sun does not yet stand straight overhead.

Twelve o'clock noon: ebira eńg oloń = the sun stands straight overhead.